

¹³⁰La ε decay (8.7 min) **1982Ur01,1995Ki06,1973MeZZ**

| Type | Author | History Citation | Literature Cutoff Date |
|-----------------|--------------|-------------------|------------------------|
| Full Evaluation | Balraj Singh | NDS 93, 33 (2001) | 11-May-2001 |

Parent: ¹³⁰La: E=0.0; J^π=3⁽⁺⁾; T_{1/2}=8.7 min I; Q(ε)=5666 70; %ε+%β⁺ decay=100.0

¹³⁰La-Q(ε): Q(ε)=5666 70 (βγ coin,1998Ko66); 5698 205 (syst,1995Au04).

¹³⁰La-T_{1/2}: T_{1/2}=8.7 min I (1963Ya05).

1982Ur01: measured Eγ, Iγ, γγ.

1995Ki06, 1994Si02: measured Eγ, γγ, γγ(θ) at 90° and 180°.

1973MeZZ (also 1971EaZU): measured Eγ, Iγ. (see 1978LeZA or 1974Hi08 for listing of Eγ and Iγ from 1973MeZZ).

Others:

1998Ko66: measured Q(ε) from βγ coin.

1997As05: measured γγ(θ) for 822-357 cascade.

1974Dr04: measured Eγ, Iγ.

1968Ab02: measured Eγ.

1965Ge03, 1963Ya05, 1961Sh17: measured γ, T_{1/2}(¹³⁰Ba).

¹³⁰Ba Levels

| E(level) | J ^π † | E(level) | J ^π † | E(level) | J ^π † | E(level) | J ^π † |
|------------|-------------------|------------|---------------------|------------|---------------------|------------|-------------------------------------|
| 0.0 | 0 ⁺ | 1844.57 10 | 4 ⁺ | 2317.87 15 | (3,4 ⁺) | 2891.2# 2 | |
| 357.34 7 | 2 ⁺ | 1882.90 10 | 2 ⁺ | 2346.81 10 | 3 ⁽⁺⁾ | 2935.4# 4 | |
| 901.78 10 | 4 ⁺ | 1918.6# 2 | 3 | 2407.8# 4 | | 3265.2?‡ 2 | |
| 907.98 8 | 2 ⁺ | 2053.6 2 | (3,4 ⁺) | 2433.8# 4 | | 3660.0 2 | (2 ⁺ ,3,4 ⁺) |
| 1179.5# 2 | 0 ⁺ | 2079.13 9 | 3 ⁽⁺⁾ | 2557.1# 3 | | 3676.2# 4 | |
| 1361.01 9 | 3 ⁽⁺⁾ | 2168.4# 3 | 5 ⁻ | 2602.1# 3 | | 3704.7‡ 4 | (2 ⁺ ,3,4 ⁺) |
| 1477.50 10 | (4 ⁺) | 2248.09 12 | (3,4 ⁺) | 2645.57 12 | 3 ⁽⁺⁾ | 3711.9‡ 4 | |
| 1557.47 10 | 2 ⁺ | 2269.2# 2 | | 2733.7# 4 | (1,2 ⁺) | 3798.7# 3 | |
| 1592.9 3 | 6 ⁺ | 2279.5# 2 | | 2784.0# 2 | (3,4 ⁺) | 4006.8# 4 | |

† From Adopted Levels.

‡ Level not given in 1995Ki06.

From 1995Ki06 only.

ε,β⁺ radiations

| E(decay) | E(level) | Iβ ⁺ † | Iε † | Log ft | I(ε+β ⁺) † | Comments |
|--------------------------|----------|-------------------|------|--------|------------------------|--|
| (1.95×10 ³ 7) | 3711.9 | 0.079 | 1.30 | 5.8 | 1.38 | av Eβ=422 31; εK=0.802 13; εL=0.1104 19; εM+=0.0308 6 |
| (1.96×10 ³ 7) | 3704.7 | 0.090 | 1.45 | 5.8 | 1.54 | av Eβ=426 31; εK=0.800 13; εL=0.1102 19; εM+=0.0307 6 |
| (2.01×10 ³ 7) | 3660.0 | 0.11 | 1.51 | 5.8 | 1.62 | av Eβ=445 31; εK=0.792 14; εL=0.1090 21; εM+=0.0304 6 |
| (2.40×10 ³ 7) | 3265.2? | 0.18 | 0.79 | 6.2 | 0.97 | av Eβ=620 32; εK=0.693 22; εL=0.095 3; εM+=0.0264 9 |
| (3.02×10 ³ 7) | 2645.57 | 1.6 | 2.1 | 6.0 | 3.7 | av Eβ=899 32; εK=0.488 23; εL=0.066 4; εM+=0.0185 9 |
| (3.11×10 ³ 7) | 2557.1 | 0.2 | 0.2 | 7.0 | 0.4 | av Eβ=939 32; εK=0.459 23; εL=0.062 3; εM+=0.0174 9 |
| (3.32×10 ³ 7) | 2346.81 | 3.7 | 3.2 | 5.9 | 6.9 | av Eβ=1035 32; εK=0.396 21; εL=0.054 3; εM+=0.0150 8 |
| (3.35×10 ³ 7) | 2317.87 | 0.31 | 0.26 | 7.0 | 0.57 | av Eβ=1048 32; εK=0.388 20; εL=0.053 3; εM+=0.0147 8 |
| (3.59×10 ³ 7) | 2079.13 | 6.48 | 4.02 | 5.9 | 10.5 | av Eβ=1158 33; εK=0.326 18; εL=0.0443 24; εM+=0.0123 7 |
| (3.61×10 ³ 7) | 2053.6 | 0.6 | 0.3 | 7.0 | 0.9 | av Eβ=1170 33; εK=0.320 17; εL=0.0435 23; εM+=0.0121 7 |
| (3.78×10 ³ 7) | 1882.90 | 6.5 | 3.2 | 6.0 | 9.7 | av Eβ=1248 33; εK=0.283 15; εL=0.0383 21; εM+=0.0107 6 |
| (3.82×10 ³ 7) | 1844.57 | 1.8 | 0.84 | 6.6 | 2.6 | av Eβ=1266 33; εK=0.275 15; εL=0.0373 20; εM+=0.0104 6 |
| (4.11×10 ³ 7) | 1557.47 | 3.1 | 1.1 | 6.6 | 4.2 | av Eβ=1399 33; εK=0.223 12; εL=0.0302 16; εM+=0.0084 5 |
| (4.19×10 ³ 7) | 1477.50 | 2.4 | 0.79 | 6.7 | 3.2 | av Eβ=1437 33; εK=0.211 11; εL=0.0286 15; εM+=0.0079 4 |
| (4.30×10 ³ 7) | 1361.01 | 5.4 | 1.6 | 6.4 | 7.0 | av Eβ=1491 33; εK=0.194 10; εL=0.0263 14; εM+=0.0073 4 |

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¹³⁰La ε decay (8.7 min) **1982Ur01,1995Ki06,1973MeZZ (continued)**

ε,β⁺ radiations (continued)

| E(decay) | E(level) | Iβ ⁺ † | Iε [†] | Log ft | I(ε+β ⁺) [†] | Comments |
|----------------------------|----------|-------------------|-----------------|--------|-----------------------------------|---|
| (4.49×10 ³ ‡ 7) | 1179.5 | 0.3 | 0.08 | 7.8 | 0.4 | av Eβ=1576 33; εK=0.171 9; εL=0.0232 12; εM+=0.0064 4 |
| (4.76×10 ³ 7) | 907.98 | 18 2 | 3.7 4 | 6.17 6 | 22 2 | av Eβ=1703 33; εK=0.143 7; εL=0.0193 10; εM+=0.0054 3 E(β ⁺)=3740 90 in coin with 909γ (1998Ko66). |
| (4.76×10 ³ 7) | 901.78 | 4.4 | 0.88 | 6.8 | 5.3 | av Eβ=1706 33; εK=0.142 7; εL=0.0192 10; εM+=0.0053 3 |
| (5.31×10 ³ 7) | 357.34 | 16 | 2.1 | 6.5 | 18 | av Eβ=1963 34; εK=0.101 5; εL=0.0136 6; εM+=0.00378 17 E(β ⁺)=4260 120 in coin with 357γ (1998Ko66). |

† Absolute intensity per 100 decays.

‡ Existence of this branch is questionable.

γ(¹³⁰Ba)

I_γ normalization: from Σ (I(γ+ce) of γ's to g.s.)=100.

R=I_γ(90°)/I_γ(180°) (1995Ki06,1994Si02).

| E _γ † | I _γ ‡d | E _i (level) | J _i ^π | E _f | J _f ^π | Mult. | α ^e | Comments |
|-----------------------|---------------------|------------------------|-----------------------------|----------------|-----------------------------|-------|----------------|---|
| 196.1 @ 3 | | 2079.13 | 3 ⁽⁺⁾ | 1882.90 | 2 ⁺ | | | |
| 196.2 #g | 0.25 ^c 4 | 1557.47 | 2 ⁺ | 1361.01 | 3 ⁽⁺⁾ | | | |
| 234.5 & 3 | 0.14 ^c 4 | 2079.13 | 3 ⁽⁺⁾ | 1844.57 | 4 ⁺ | | | |
| 264.1 @ 3 | | 2317.87 | (3,4 ⁺) | 2053.6 | (3,4 ⁺) | | | |
| 267.7 l | 0.6 2 | 2346.81 | 3 ⁽⁺⁾ | 2079.13 | 3 ⁽⁺⁾ | | | |
| 271.4 @ 3 | | 1179.5 | 0 ⁺ | 907.98 | 2 ⁺ | | | (271γ)(908γ)(θ): R=0.54 5. |
| 298.7 @ 3 | | 2645.57 | 3 ⁽⁺⁾ | 2346.81 | 3 ⁽⁺⁾ | | | |
| 325.5 @ 3 | | 1882.90 | 2 ⁺ | 1557.47 | 2 ⁺ | | | |
| 327.9 3 | ≈0.7 ^b | 2645.57 | 3 ⁽⁺⁾ | 2317.87 | (3,4 ⁺) | | | I _γ : from 1982Ur01. I _γ =2.43 16 (1973MeZZ). |
| 357.4 l | 100 3 | 357.34 | 2 ⁺ | 0.0 | 0 ⁺ | E2 | 0.0262 | α(K)=0.02163; α(L)=0.00365; α(M)=0.00076; α(N+...)=0.00020 |
| 360.8 @ 3 | | 2279.5 | | 1918.6 | 3 | | | |
| 367.1 3 | 0.5 2 | 1844.57 | 4 ⁺ | 1477.50 | (4 ⁺) | | | (367γ)(1120γ)(θ): R=1.02 10. (367γ)(569γ)(θ): R=1.07 7. δ(Q/D)=-1.0 8 or +213 167 (1995Ki06). |
| 376.2 @ 3 | | 2645.57 | 3 ⁽⁺⁾ | 2269.2 | | | | |
| 377.7 @ 3 | | 1557.47 | 2 ⁺ | 1179.5 | 0 ⁺ | | | (378γ)(822γ)(θ): R=1.05 4. (378γ)(271γ)(θ): R=1.00 8. |
| 397.6 6 | 0.6 3 | 2645.57 | 3 ⁽⁺⁾ | 2248.09 | (3,4 ⁺) | | | |
| 427.9 @ 3 | | 2346.81 | 3 ⁽⁺⁾ | 1918.6 | 3 | | | |
| 437.2 @ 3 | | 2784.0 | (3,4 ⁺) | 2346.81 | 3 ⁽⁺⁾ | | | |
| 453.2 l | 4.7 2 | 1361.01 | 3 ⁽⁺⁾ | 907.98 | 2 ⁺ | | | (453γ)(908γ)(θ): R=1.68 4. δ(Q/D)=+0.31 2 or +13 3 (1995Ki06). |
| 459.4 4 | 0.9 2 | 1361.01 | 3 ⁽⁺⁾ | 901.78 | 4 ⁺ | | | (459γ)(544γ)(θ): R=1.19 3. δ(Q/D)=-0.20 7 or -2.5 5 (1995Ki06). |
| 464.2 2 | 1.0 3 | 2346.81 | 3 ⁽⁺⁾ | 1882.90 | 2 ⁺ | | | |
| *472.9 ^a 2 | 0.6 4 | | | | | | | |
| 473.4 @ 3 | | 2317.87 | (3,4 ⁺) | 1844.57 | 4 ⁺ | | | (473γ)(1487γ)(θ): R=0.85 3. |
| 483.7 3 | 1.0 2 | 1844.57 | 4 ⁺ | 1361.01 | 3 ⁽⁺⁾ | | | |
| 496.3 @ 3 | | 2053.6 | (3,4 ⁺) | 1557.47 | 2 ⁺ | | | (496γ)(378γ)(θ): R=0.69 14. |

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¹³⁰La ε decay (8.7 min) **1982Ur01,1995Ki06,1973MeZZ (continued)**

γ(¹³⁰Ba) (continued)

| E_γ † | I_γ ‡d | E_i (level) | J_i^π | E_f | J_f^π | Comments |
|-----------------------------------|---------------------|---------------|-----------|---------|-----------|---|
| 502.2 5 | 0.25 5 | 2346.81 | 3(+) | 1844.57 | 4+ | |
| 521.8 ^f 5 | ≈0.8 ^{fb} | 1882.90 | 2+ | 1361.01 | 3(+) | |
| 521.8 ^f 5 | ≈0.5 ^{fb} | 2079.13 | 3(+) | 1557.47 | 2+ | (522γ)(378γ)(θ): R=0.63 6. δ(Q/D)=-0.8 4 (1995Ki06). |
| 544.5 1 | 20 2 | 901.78 | 4+ | 357.34 | 2+ | (544γ)(357γ)(θ): R=0.876 7. |
| 550.7 1 | 32 2 | 907.98 | 2+ | 357.34 | 2+ | (551γ)(357γ)(θ): R=0.949 7. δ(Q/D)=-0.296 7 or -40 13 (1995Ki06). |
| 566.4& 3 | 0.43 ^c 3 | 2645.57 | 3(+) | 2079.13 | 3(+) | |
| 569.4 1 | 3.5 4 | 1477.50 | (4+) | 907.98 | 2+ | (569γ)(908γ)(θ): R=0.905 21. |
| 575.6@ 3 | | 2168.4 | 5- | 1592.9 | 6+ | |
| 575.7 ^f 5 | 2.5 ^{fb} 3 | 1477.50 | (4+) | 901.78 | 4+ | (576γ)(544γ)(θ): R=0.977 17. δ(Q/D)=-0.43 8 or +2.4 5 (1995Ki06). |
| 576.2 ^f 5 | ≈0.3 ^{fb} | 2053.6 | (3,4+) | 1477.50 | (4+) | (576γ)(1120γ)(θ): R=0.83 4. (576γ)(569γ)(θ): R=0.86 3. |
| 589.2@ 3 | | 2433.8 | | 1844.57 | 4+ | |
| 592.1 4 | 0.5 1 | 2645.57 | 3(+) | 2053.6 | (3,4+) | |
| 601.5 4 | 0.4 2 | 2079.13 | 3(+) | 1477.50 | (4+) | |
| 649.6 1 | 1.9 2 | 1557.47 | 2+ | 907.98 | 2+ | (650γ)(908γ)(θ): R=0.707 23. δ(Q/D)=-0.01 3 or +3.2 4 (1995Ki06). |
| 655.6 | 0.26 ^c 4 | 1557.47 | 2+ | 901.78 | 4+ | (656γ)(544γ)(θ): R=0.81 5. |
| 691.1@ 3 | | 1592.9 | 6+ | 901.78 | 4+ | |
| 692.8 7 | 0.39 5 | 2053.6 | (3,4+) | 1361.01 | 3(+) | |
| 703.3& 3 | 0.42 ^c 6 | 1882.90 | 2+ | 1179.5 | 0+ | (703γ)(822γ)(θ): R=1.01 7. (703γ)(271γ)(θ): R=1.17 20. |
| 718.2 1 | 3.4 2 | 2079.13 | 3(+) | 1361.01 | 3(+) | |
| 726.9@ 3 | | 2645.57 | 3(+) | 1918.6 | 3 | |
| 789.2& 3 | 0.43 ^c 6 | 2346.81 | 3(+) | 1557.47 | 2+ | |
| 801.2 2 | 1.0 3 | 2645.57 | 3(+) | 1844.57 | 4+ | (801γ)(1486γ)(θ): R=1.1 1. (801γ)(936γ)(θ): R=1.2 1. δ(Q/D)=-0.2 2 or -2.4 13 (1995Ki06). |
| ^x 818# | 0.23 ^c 4 | | | | | |
| 822.0& 3 | 0.96 ^c 9 | 1179.5 | 0+ | 357.34 | 2+ | (822γ)(357γ)(θ): R=0.507 10. (822γ)(357γ)(θ): A ₂ =+0.32 4, A ₄ =+1.03 8 (1997As05). I _γ : from 1973MeZZ. I _γ ≈1.3 (1982Ur01). (840γ)(559γ)(θ): R=1.08 12. |
| 840.1 3 | 0.29 5 | 2317.87 | (3,4+) | 1477.50 | (4+) | |
| ^x 866.5 ^a 4 | 0.5 1 | | | | | |
| 869.3 1 | 2.0 1 | 2346.81 | 3(+) | 1477.50 | (4+) | (869γ)(1120γ)(θ): R=0.89 4. (869γ)(569γ)(θ): R=0.89 3. δ(Q/D)=+0.47 11 or +3.8 14 (1995Ki06). |
| 908.0 1 | 21 2 | 907.98 | 2+ | 0.0 | 0+ | |
| 930.3@ 3 | | 2407.8 | | 1477.50 | (4+) | |
| 936.6 2 | 1.0 2 | 1844.57 | 4+ | 907.98 | 2+ | (937γ)(908γ)(θ): R=0.87 5. |
| 942.8 1 | 1.2 1 | 1844.57 | 4+ | 901.78 | 4+ | (943γ)(544γ)(θ): R=0.711 18. δ(Q/D)=+0.16 13 or +0.8 2 (1995Ki06). |
| 957.0 3 | 0.5 1 | 2317.87 | (3,4+) | 1361.01 | 3(+) | |
| 974.9 1 | 3.8 2 | 1882.90 | 2+ | 907.98 | 2+ | (975γ)(908γ)(θ): R=0.91 3. δ(Q/D)=-0.25 3 or +45 6 (1995Ki06). |
| 981.0@ 3 | | 1882.90 | 2+ | 901.78 | 4+ | (981γ)(544γ)(θ): R=0.86 20. |
| 986.4 10 | 0.3 1 | 2346.81 | 3(+) | 1361.01 | 3(+) | |
| 1003.6 1 | 9.7 3 | 1361.01 | 3(+) | 357.34 | 2+ | (1004γ)(357γ)(θ): R=1.114 12. δ(Q/D)=-0.0009 86 or -4.6 2 (1995Ki06). |

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^{130}La ε decay (8.7 min) **1982Ur01,1995Ki06,1973MeZZ** (continued) $\gamma(^{130}\text{Ba})$ (continued)

| E_γ † | I_γ ‡d | $E_i(\text{level})$ | J_i^π | E_f | J_f^π | Comments |
|------------------------------------|----------------------|---------------------|---------------------|---------|---------------------|--|
| 1010.5 @ 3 | | 1918.6 | 3 | 907.98 | 2 ⁺ | |
| 1016.7 @ 3 | | 1918.6 | 3 | 901.78 | 4 ⁺ | (1017 γ)(544 γ)(θ): R=1.28 8. $\delta(Q/D)=-0.4$ 2 or -1.6 7 (1995Ki06). |
| 1017.0 ^a 3 | 0.7 2 | 3265.2? | | 2248.09 | (3,4 ⁺) | |
| 1088.0 @ 3 | | 2645.57 | 3(+) | 1557.47 | 2 ⁺ | |
| 1090.8 @ 3 | | 2935.4 | | 1844.57 | 4 ⁺ | |
| 1120.2 I 3 | 2.3 2 | 1477.50 | (4 ⁺) | 357.34 | 2 ⁺ | (1120 γ)(357 γ)(θ): R=0.923 18. |
| 1151.8 & 3 | 0.43 ^c 5 | 2053.6 | (3,4 ⁺) | 901.78 | 4 ⁺ | (1152 γ)(544 γ)(θ): R=1.07 6. |
| 1167.8 @ 3 | | 2645.57 | 3(+) | 1477.50 | (4 ⁺) | |
| 1171.1 I 3 | 4.6 2 | 2079.13 | 3(+) | 907.98 | 2 ⁺ | (1171 γ)(908 γ)(θ): R=1.13 4. $\delta(Q/D)=+0.008$ 25 or -4.8 6 (1995Ki06). |
| 1177.4 I 3 | 2.7 I | 2079.13 | 3(+) | 901.78 | 4 ⁺ | (1177 γ)(544 γ)(θ): R=1.25 3. $\delta(Q/D)=-0.34$ 7 or -1.8 3 (1995Ki06). |
| 1200.1 I 3 | 3.6 3 | 1557.47 | 2 ⁺ | 357.34 | 2 ⁺ | (1200 γ)(357 γ)(θ): R=0.965 15. $\delta(Q/D)=-0.31$ 2 or -23 9 (1995Ki06). |
| 1222.8 @ 3 | | 4006.8 | | 2784.0 | (3,4 ⁺) | |
| 1266.6 @ 3 | | 2168.4 | 5 ⁻ | 901.78 | 4 ⁺ | |
| 1306.3 @ 3 | | 2784.0 | (3,4 ⁺) | 1477.50 | (4 ⁺) | |
| 1333.7 @ 3 | | 2891.2 | | 1557.47 | 2 ⁺ | |
| 1340.2 @ 3 | | 2248.09 | (3,4 ⁺) | 907.98 | 2 ⁺ | |
| 1346.3 I 3 | 1.1 I | 2248.09 | (3,4 ⁺) | 901.78 | 4 ⁺ | (1346 γ)(544 γ)(θ): R=0.85 3. |
| 1361.1 @ 3 | | 2269.2 | | 907.98 | 2 ⁺ | |
| 1377.7 @ 3 | | 2279.5 | | 901.78 | 4 ⁺ | (1378 γ)(544 γ)(θ): R=0.84 5. |
| 1410.7 4 | 0.5 I | 2317.87 | (3,4 ⁺) | 907.98 | 2 ⁺ | (1411 γ)(908 γ)(θ): R=0.71 9. |
| 1415.9 #g | 0.11 ^c 5 | 2317.87 | (3,4 ⁺) | 901.78 | 4 ⁺ | |
| 1438.8 I 3 | 2.8 2 | 2346.81 | 3(+) | 907.98 | 2 ⁺ | (1438 γ)(908 γ)(θ): R=2.37 13. $\delta(Q/D)=+0.63$ 7 or $+3.0$ 5 (1995Ki06). |
| 1445.0 2 | 1.1 I | 2346.81 | 3(+) | 901.78 | 4 ⁺ | (1445 γ)(544 γ)(θ): R=0.60 11. $\delta(Q/D)=+1.1$ 17 (1995Ki06). |
| 1487.3 2 | 0.93 5 | 1844.57 | 4 ⁺ | 357.34 | 2 ⁺ | (1487 γ)(357 γ)(θ): R=0.85 3. |
| 1525.7 I 3 | 8.0 6 | 1882.90 | 2 ⁺ | 357.34 | 2 ⁺ | (1526 γ)(357 γ)(θ): R=0.680 8. $\delta(Q/D)=+0.029$ 12 or $+2.8$ 2 (1995Ki06). |
| 1529.5 @ 3 | | 3798.7 | | 2269.2 | | |
| 1530.2 @ 3 | | 2891.2 | | 1361.01 | 3(+) | |
| 1554.2 @ 3 | | 2733.7 | (1,2 ⁺) | 1179.5 | 0 ⁺ | |
| 1557.1 @ 3 | <0.3 | 1557.47 | 2 ⁺ | 0.0 | 0 ⁺ | I_γ : estimated by 1982Ur01. |
| 1561.2 @ 3 | | 1918.6 | 3 | 357.34 | 2 ⁺ | (1561 γ)(357 γ)(θ): R=1.18 12. $\delta(Q/D)=+0.04$ 8 or -6 3 (1995Ki06). |
| 1622.6 @ 3 | | 3676.2 | | 2053.6 | (3,4 ⁺) | |
| 1649.1 & 3 | 0.53 ^c 12 | 2557.1 | | 907.98 | 2 ⁺ | |
| ^x 1654 # | 0.37 ^c 9 | | | | | |
| 1694.1 @ 3 | | 2602.1 | | 907.98 | 2 ⁺ | |
| 1695.8 3 | 0.52 8 | 2053.6 | (3,4 ⁺) | 357.34 | 2 ⁺ | Placement from 1995Ki06. |
| 1721.7 I 3 | 2.3 2 | 2079.13 | 3(+) | 357.34 | 2 ⁺ | (1722 γ)(357 γ)(θ): R=1.27 3. $\delta(Q/D)=+0.10$ 2 or -8.4 14 (1995Ki06). |
| ^x 1736.0 ^a 4 | 0.4 I | | | | | |
| 1744.0 3 | 0.6 I | 2645.57 | 3(+) | 901.78 | 4 ⁺ | (1744 γ)(544 γ)(θ): R=0.82 4. $\delta(Q/D)=+0.37$ 7 or $+4.2$ 11 (1995Ki06). |
| 1787.8 ^a 3 | 0.5 I | 3265.2? | | 1477.50 | (4 ⁺) | |

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^{130}La ε decay (8.7 min) [1982Ur01](#), [1995Ki06](#), [1973MeZZ](#) (continued) $\gamma(^{130}\text{Ba})$ (continued)

| E_γ^\dagger | $I_\gamma^{\ddagger d}$ | $E_i(\text{level})$ | J_i^\ddagger | E_f | J_f^\ddagger | Comments |
|------------------------------------|-------------------------|---------------------|-------------------------------------|---------|-------------------|--|
| 1882.0@ 3 | | 2784.0 | (3,4 ⁺) | 901.78 | 4 ⁺ | (1882 γ)(544 γ)(θ): R=1.0 1. |
| 1882.5@ 3 | | 1882.90 | 2 ⁺ | 0.0 | 0 ⁺ | |
| 1890.5@ 3 | | 2248.09 | (3,4 ⁺) | 357.34 | 2 ⁺ | (1890 γ)(357 γ)(θ): R=1.1 4. |
| 1911.6@ 3 | | 2269.2 | | 357.34 | 2 ⁺ | (1912 γ)(357 γ)(θ): R=1.02 14. |
| ^x 1953.9 ^a 3 | 0.6 1 | | | | | |
| ^x 2035.7 ^a 3 | 0.5 1 | | | | | |
| 2182.5 5 | 0.3 1 | 3660.0 | (2 ⁺ ,3,4 ⁺) | 1477.50 | (4 ⁺) | |
| 2287.9 3 | 0.7 1 | 2645.57 | 3 ⁽⁺⁾ | 357.34 | 2 ⁺ | (2288 γ)(357 γ)(θ): R=1.22 8. $\delta(Q/D)=+0.07$ 5 or -6.9 23 (1995Ki06). |
| 2426.9@ 3 | | 2784.0 | (3,4 ⁺) | 357.34 | 2 ⁺ | |
| 2437.8@ 3 | | 3798.7 | | 1361.01 | 3 ⁽⁺⁾ | |
| 2752.1 ^a 3 | 1.2 1 | 3660.0 | (2 ⁺ ,3,4 ⁺) | 907.98 | 2 ⁺ | |
| 2757.9 ^a 4 | 0.5 1 | 3660.0 | (2 ⁺ ,3,4 ⁺) | 901.78 | 4 ⁺ | |
| 2796.7 ^a 4 | 1.6 2 | 3704.7 | (2 ⁺ ,3,4 ⁺) | 907.98 | 2 ⁺ | |
| 2802.8 ^a 12 | 0.3 1 | 3704.7 | (2 ⁺ ,3,4 ⁺) | 901.78 | 4 ⁺ | |
| 2810.1 ^a 3 | 1.7 3 | 3711.9 | | 901.78 | 4 ⁺ | |

[†] From [1982Ur01](#), unless otherwise stated.

[‡] Average of [1982Ur01](#) and [1973MeZZ](#), except as noted.

From [1973MeZZ](#) only.

@ From [1995Ki06](#) only. Intensity is not given. Uncertainty of 0.3 keV assigned by the evaluator, based on comparison of other E_γ 's with those from [1982Ur01](#).

& From [1995Ki06](#). A similar E_γ is reported by [1973MeZZ](#), but not by [1982Ur01](#).

^a From [1982Ur01](#), γ not reported by [1995Ki06](#).

^b From $\gamma\gamma$ coin ([1982Ur01](#)).

^c From [1973MeZZ](#).

^d For absolute intensity per 100 decays, multiply by 0.81 3.

^e Total theoretical internal conversion coefficients, calculated using the BrIcc code ([2008Ki07](#)) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

^f Multiply placed with intensity suitably divided.

^g Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

^{130}La ϵ decay (8.7 min) 1982Ur01,1995Ki06,1973MeZZ

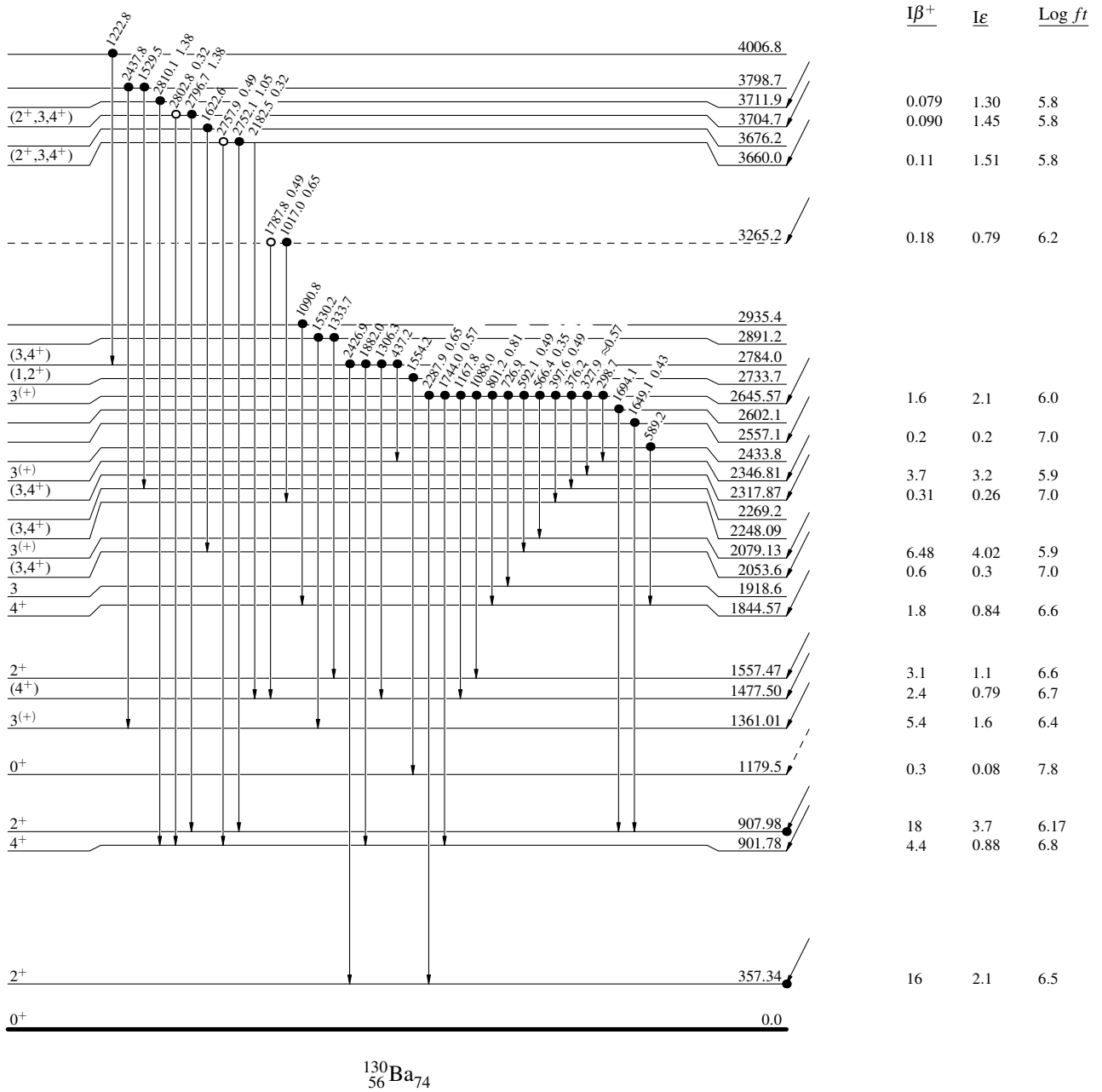
Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence
- Coincidence (Uncertain)

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

$^{130}\text{La}_{73}$ 3(+) 0.0 8.7 min I
 $Q_\epsilon = 5666.70$
 $\% \epsilon + \% \beta^+ = 100$



^{130}La ϵ decay (8.7 min) 1982Ur01,1995Ki06,1973MeZZ

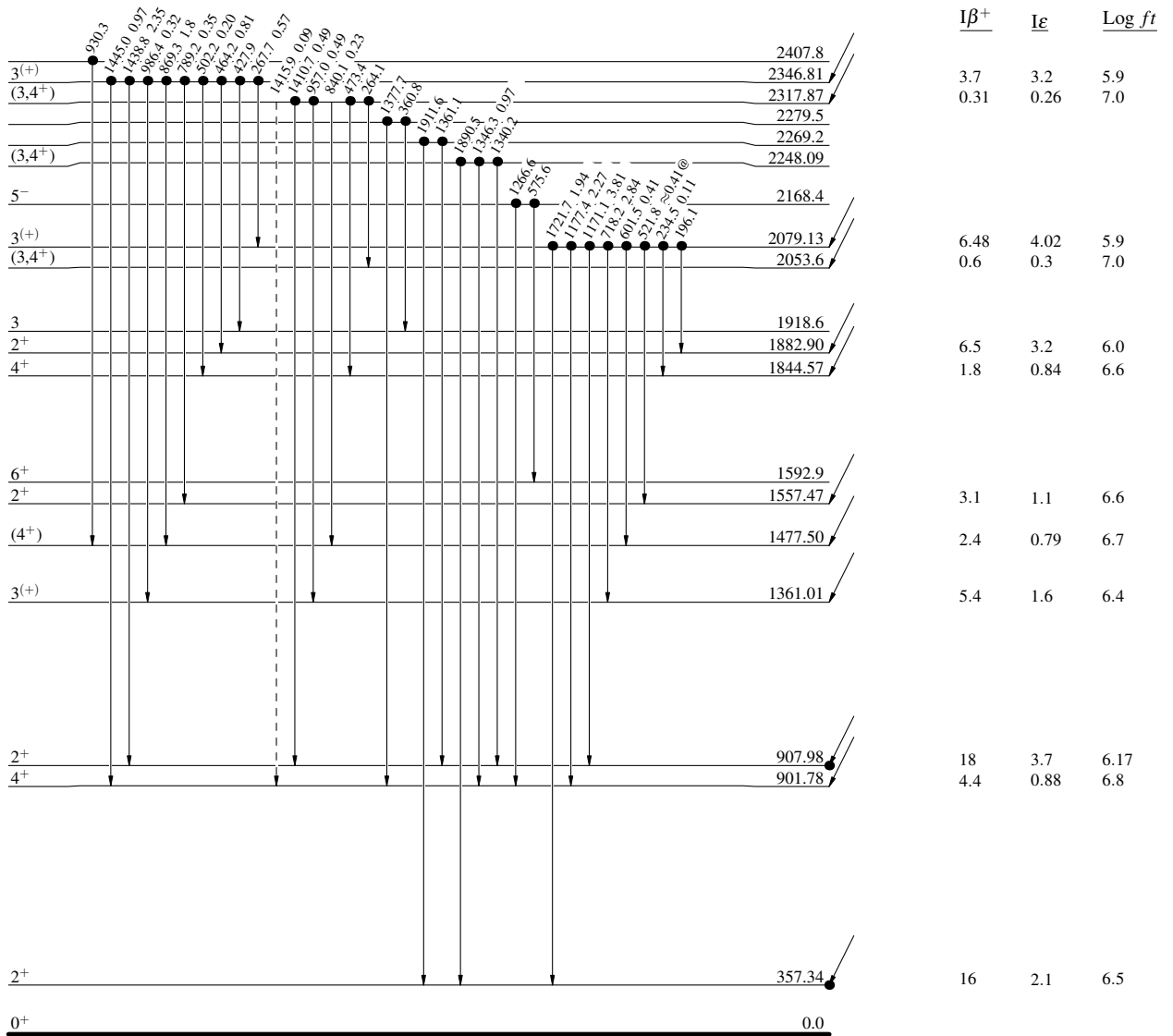
Decay Scheme (continued)

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - -→ γ Decay (Uncertain)
- Coincidence

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
 @ Multiply placed: intensity suitably divided

$^{130}_{57}\text{La}_{73}$ $3(+)$ 0.0 8.7 min I
 $Q_\epsilon = 5666.70$
 $\% \epsilon + \% \beta^+ = 100$



$^{130}_{56}\text{Ba}_{74}$

^{130}La ϵ decay (8.7 min) 1982Ur01,1995Ki06,1973MeZZ

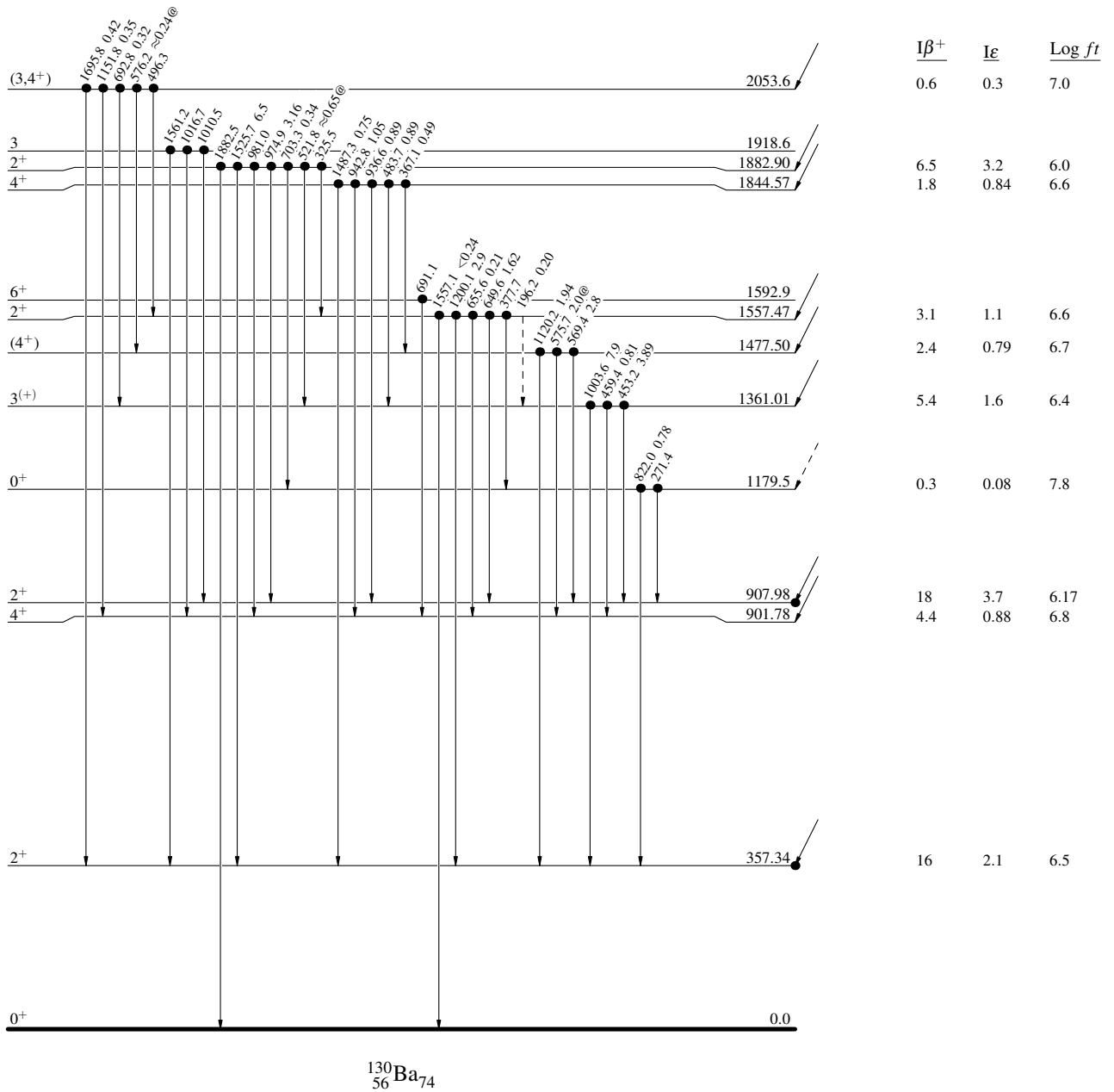
Decay Scheme (continued)

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - - γ Decay (Uncertain)
- Coincidence

Intensities: $I_{(\gamma+e)}$ per 100 parent decays
 @ Multiply placed: intensity suitably divided

$^{130}_{57}\text{La}_{73}$ 8.7 min I
 $Q_\epsilon = 5666.70$
 $\% \epsilon + \% \beta^+ = 100$



^{130}La ε decay (8.7 min) 1982Ur01,1995Ki06,1973MeZZ

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
 @ Multiply placed: intensity suitably divided

Legend

- $I_{\gamma} < 2\% \times I_{\gamma}^{max}$
- $I_{\gamma} < 10\% \times I_{\gamma}^{max}$
- $I_{\gamma} > 10\% \times I_{\gamma}^{max}$
- Coincidence

